Claims

1. Closure plug for the sealingly and acoustically dampening closing of a hole in a structural member made of flat material, preferably sheet metal or plastic material, comprising a shank which is adapted to be sealingly inserted into the hole, a radially flange integrally formed to one end of the shank of resilient material, the flange having a radially outwardly oblique or bent portion which sealingly engages an associated surface of the structural member upon deformation when the shank is inserted into the hole, the shaft being retained in the hole by an undercut cooperating with the wall of the hole, characterized in that the shank (12) in the area of the sealing engagement with the hole has a sealing portion (32) which in the none-biased state has a smooth conical outer surface, the outer surface having a diameter which increases towards the flange at least in the area of the sealing engagement, the diameter being further larger than that of the hole and that on the inner side of the juncture of the flange and the shank a free space is provided which extends axially to towards the other end of the shank at least up to the sealing engagement or beyond thereof whereby beneath the flange an annular shank portion is formed and whereby the material of the annular shank portion can be deformed into the free space when the shank is pressed into the hole and the wall of the hole forms an annular groove in the annular portion, the groove defining the undercut.

2. The plug of claim 1, wherein the plug body is formed of a thermoplastic elastomer of high density.

3. The plug of claim 2, wherein the thermoplastic elastomer has a small pressure deformation remainder.

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4. The plug of one of the claims 1 to 3, wherein the shank beneath the sealing portion has an entrance portion also including a conical outer surface, the diameter of the surface increasing towards the sealing portion and being smaller than the diameter of the hole.

5. The plug of one of the claims 1 to 4, wherein the shank beneath the free space is annularly formed with a triangular cross-section of the annulus, one apex of the triangle facing towards the free end of the shank.

6. The plug of one of the claims 1 to 5, wherein radially inwardly of the flange the shank is connected with a head portion, and the free space is formed by an annular recess of the head portion (16) concentrically to the axis of the shank.

7. The plug of claim 6, wherein the head portion is punch-shaped with an upper surface extending upwardly beyond the flange.

8. The plug of claim 7, wherein the upper surface of the punch-shaped head portion is convex.

9. The plug of one of the claims 6 to 8, wherein the annular recess has a width and the flange is formed such that the flange upon insertion of the plug body into the hole is deformed by the structural member approximately in the plane of the associated surface and an annular inner surface of the flange engages the outer surface of the head portion in that the annular shank portion connected to the flange is pivoted radially inwardly relative to the remaining portion of the shank.

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